**Exercice : Map – Reduce**

1. **Map**

Write a Python script, called **countlines.py**, that will count the total number of lines in each of some Shakespeare plays, e.g. by using the command line call

**python countlines.py shakespeare/hamlet shakespeare/allswellthatendswell**

To do this, first write a function **count\_lines\_in\_file(filename)** that counts the number of lines in a file.

Then, use the **standard map** function to count the number of lines in each Shakespeare play, printing the result as a list.

**Examples[[1]](#footnote-1) :**

**1- python countlines.py shakespeare/hamlet shakespeare/coriolanus**

**=> [('shakespeare/hamlet', 228), ('shakespeare/coriolanus', 5836)]**

**2- python countlines.py shakespeare/ cymbeline shakespeare/allswellthatendswell**

**=> [('shakespeare/cymbeline', 5485), ('shakespeare/allswellthatendswell', 4515)]**

1. **Reduce**

Modify your **countlines.py** script so that, in addition to printing out the total number of lines in each Shakespeare play, it also uses **reduce** to print out the total number of lines in all Shakespeare plays.

**Examples :**

**1- python countlines.py shakespeare/hamlet shakespeare/coriolanus**

**=> [('shakespeare/hamlet', 228), ('shakespeare/coriolanus', 5836)]**

**The total number of lines is 6064.**

**2- python countlines.py shakespeare/ cymbeline shakespeare/allswellthatendswell**

**=> [('shakespeare/cymbeline', 5485), ('shakespeare/allswellthatendswell', 4515)]**

**The total number of lines is 10000.**

1. *On utilise les arguments de la ligne de commande pour récupérer les fichiers (sys.argv)* [↑](#footnote-ref-1)